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Top Secret

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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basic imagery interpretation report

Kazan Aircraft Engine Plant 16 (S)

STRATEGIC WEAPONS INDUSTRIAL FACILITIES

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USSR

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RCA-09[illegible]/80
AUGUST 1980
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INSTALLATION OR ACTIVITY NAME					COUNTRY
Kazan Aircraft Engine Plant 16					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	55-51-19N 049-06-20E				

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MAP REFERENCE

DMA. USATC, Series 200, Sheet 0165-1, 5th ed, 1 Jun 76, scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
	NA

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ABSTRACT

1. (S/D) This report updates NPIC report [redacted] and supersedes two subsequent NPIC reports, [redacted] on Kazan Aircraft Engine Plant 16, USSR, and substantially satisfies the NPIC reporting requirement for this target. Construction and production activity observed at the plant since [redacted] the information cutoff date of the report being updated, is discussed in this report. Construction activity observed between [redacted] the information cutoff date for this report, resulted in the completion or enlargement of 63 buildings and the razing of six buildings. The net gain in floorspace during this reporting period was 60,475 square meters, bringing the plant total to 295,393 square meters. Additionally, on [redacted] another 24,369 square meters of floorspace was under construction.

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2. (S/D) This report also discusses construction and production activity at the plant and includes a location map, four annotated photographs, and a table of mensural data pertaining to construction activity. This report also discusses the association of Plant 16 with the P. F. Zubets Motor Design Bureau (MPB).

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[redacted]

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Construction Activity At Kazan Aircraft Engine Plant 16
Since [redacted] 25X1
(Items keyed to Figure 2)

This table in its entirety is classified TOP SECRET RUFF

Item	Description	Dimensions* (m) L	W	H	Total Floorspace (sq m)	Date First Observed Ucon	Date Considered Complete	Remarks
4	Spt bldg (razed)							Razed prior to construction of item 68, was 154 sq m
7	Assembly bldg							
a	Assembly sec							
b	Shop sec							
c	Assembly sec							
d	Engr sec							4 stories
10	Admin bldg							2 stories
11	Excavation (filled in)							Potential bldg was never constructed; filled in by [redacted] 25X1
18	Spt bldg (razed)							Razed prior to construction of item 78, was 22 sq m
19	Spt bldg							
a	Spt sec							
b	Spt sec							
21	Crating bldg							
b	New sec (ucon)							Midstage of construction; side supports are [redacted] tall 25X1
28	Shop bldg							Previously a spt bldg
b	Shop sec							
29	Machine shop							
d	Engr sec							3 stories
e	Engr sec							3 stories
f	Admin/engr sec							3 stories
44	Spt bldg (razed)							Was 462 sq m
47	Shop bldg							
b	Admin sec							2 stories
c	Engr sec							2 stories
51	Engine test bldg							
c	Admin/engr sec							3 stories
d	Admin/engr sec							Part 3 story
e	Admin/engr sec							3 stories
f	Spt sec (ucon)							Early stage of construction
g	New engine test sec (ucon)							Excavation prob only contains 2 test cells; excavation for 1 silencer/diffuser is immediately east of the main excavation
55	Shop bldg							
b	Engr/shop sec							Part 2 story
61	Shop bldg							
b	Stor sec							Not observed until completed
62	Stor bldg							Replaced 2 previously separate bldgs; previously 157 sq m; not observed until completed
63	Firehouse							Previous storage bldg (306 sq m) was razed by [redacted] and firehouse built on site 25X1
64	Shop bldg							
b	Stor sec							Not observed until completed
65	Stor bldg							Not previously reported; located in area encompassed by new fenceline
66	Stor bldg							Not observed until completed
67	Stor bldg							Not observed until completed
68	Admin bldg							3 stories
69	Stor bldg							Not observed until completed
70	Stor bldg							
71	Stor bldg							Height could not be determined
72	Unid bldg (ucon)							Foundations only
73	Stor bldg							
74	Admin/engr bldg (ucon)							Dimensions overall; part 6 story and part 4 story. Has curved entry ramp for vehicles entering basement; attached to item 75 by underground passage
75	Underground personnel shelter							Connected to item 74 by underground passage; not included in plant floorspace totals
76	Stor bldg							Length overall not observed until completed
77	Stor bldg							Not observed until completed
78	Spt bldg							
79	Admin bldg							
80	Stor bldg							
81	Stor bldg							Not observed until completed
82	Stor bldg							Not observed until completed
83	Stor bldg							
84	Stor bldg							
85	Stor bldg							Not observed until completed; overall length
86	Spt bldg							
87	Shop bldg							
88	Engr bldg							2 stories
89	Shop bldg							
90	Stor bldg							

TABLE (continued)

Item	Description	Dimensions* (m) L	W	H	Total Floorspace (sq m)	Date First Observed Ucon	Date Considered Complete	Remarks
91	Stor bldg							
92	Underground stor fac							Replaced previously unannotated spt bldg
93	Stor bldg							Quonset; not observed until completed
94	Admin/engr bldg							
a	Engr sec							2 stories
b	Stor sec							
c	Admin sec							2 stories
95	Stor bldg							
96	Stor bldg							Not observed until completed
97	Stor bldg							Not observed until completed
98	Stor bldg							Quonset
99	Stor bldg							Quonset; not observed until completed
100	Stor bldg							Not observed until completed
101	Stor bldg							Not observed until completed
102	Spt bldg							
103	Cooling tower							Two-bay induced-draft tower
104	Cooling tower (ucon)							Will be identical to item 103
105	Spt bldg							Support shipping container storage area
106	Stor bldg							
107	Stor bldg							
108	Stor bldg							
109	Stor bldg							Not observed until completed
110	Shop bldg							
111	Veh stor bldg							
a	Stor sec							
b	Stor sec							
112	Engr bldg							2 stories
113	Stor bldg							
	Total floorspace on				234,918			
	Floorspace razed or lost through alteration				1,101			
	Floorspace constructed since				61,576			
	Total floorspace on				295,393			
	Floorspace ucon on				24,369			
	Projected total floorspace				319,762			

*Horizontal dimensions are accurate to within and vertical dimensions to within

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BASIC DESCRIPTION

3. (S/D) This report updates a previous NPIC report[1] and supersedes two subsequent NPIC reports[2,3] all concerning Kazan Aircraft Engine Plant 16 (Figure 1). The report covers the period [redacted] the information cutoff date of the report being updated, through [redacted] the date of the latest imagery used in this report. Construction activity during this period resulted in a net increase of 60,475 square meters of floorspace. The completion of buildings which were under construction on [redacted] added 19,781 square meters; the enlargement/expansion of existing buildings added 24,955 square meters; the construction of new buildings/structures added 16,840 square meters; and the razing of six buildings resulted in a loss of 1,101 square meters of floorspace.

4. (S/D) As of [redacted] Kazan Aircraft Engine Plant 16 (Figure 2 and Table 1) consisted of 113 significant buildings and structures containing a total of 295,393 square meters of usable floorspace with an additional 24,369 square meters under construction. Construction activity observed from [redacted] is discussed in the following paragraphs.

[redacted]

5. (S/D) Construction activity during this period resulted in the completion of 35,294 square meters of floorspace and the razing of 460 square meters. At the end of the period, an additional 15,622 square meters of floorspace were under construction.

6. (S/D) Two buildings which were under construction on [redacted] were completed during this period. These were an assembly building (item 7, Figure 2 and Table 1), first observed under construction on [redacted] and completed by [redacted] and a two-story administration building (item 10), first observed under construction on [redacted] and completed by [redacted] The completion of these buildings added 19,781 square meters of usable floorspace.

7. (S/D) Additions to buildings completed during this period included a shop section (item 7b) of the assembly building, a shop section (item 28b) of a shop building (item 28), an administration/engineering section (item 29f) of the machine shop (item 29), three administration/engineering sections (items 51c–e) of the engine test building (item 51), an engineering/shop section (item 55b) of a shop building (item 55), and a storage section (items 61b and 64b) on each of two shop buildings (items 61 and 64). The completion of these projects added 7,026 square meters of usable floorspace.

8. (S/D) New buildings/structures completed during this period were an administration/engineering building (item 94), an administration building (item 79), three shop buildings (items 87, 89, and 110), a two-bay, induced-draft cooling tower (item 103), a vehicle storage building (item 111), 16 storage buildings (items 62, 65–67, 71, 77, 91, 96, 97, 99–101, 106, 108, 109, and 113), and three support buildings (items 78, 102, and 105). The completion of these buildings added 8,487 square meters of floorspace.

9. (S/D) During this period, two support buildings (items 18 and 44), totaling 484 square meters of floorspace, and two unnumbered buildings,[1] totaling 157 square meters, were razed. Additionally, an excavation for a building observed on [redacted] (item 11) had been filled in by [redacted] before any further construction had occurred.

10. (S/D) The western wall of the plant was moved during this period (Figure 2) to allow for various new construction projects including the new assembly building. The entire western wall was moved about 75 meters to the west, resulting in an increase of 3.7 hectares of land area. By [redacted] the land area of the plant was 71.7 hectares.

11. (S/D) A total of seven construction projects begun during this period were still underway on [redacted]

[redacted]

12. (S/D) Seven construction projects, which remained under construction on [redacted] were completed during this period, adding 15,622 square meters of floorspace. These projects included the enlargement of three existing buildings including an assembly section (item 7c) of the new assembly building, constructed between [redacted] an engineering section (item 7d) of the same building, constructed between [redacted] and [redacted] and an engineering section (item 29e) of the machine shop, constructed between [redacted] and [redacted] Four new buildings under construction on [redacted] were completed during this period, including an engineering building (item 112) constructed between [redacted] a firehouse (item 63) constructed between [redacted] a storage building (item 76), and a support building (item 86).

13. (S/D) During this period, an engineering section (item 29d) of the machine shop, an administration section (item 47b) and an engineering section (item 47c) of a shop building (item 47), an administration section (item 94c) of the new administration/engineering building (item 94), and a storage section (item 111b) of the new vehicle storage building were enlarged/expanded. The completion of these buildings added 4,027 square meters of usable floorspace.

14. (S/D) New construction resulted in the addition of 6,633 square meters of usable floorspace. Buildings/structures constructed consisted of an administration building (item 68), an engineering building (item 88), an underground personnel shelter (item 75) connected by an administration/underground passage to a new administration/engineering building currently under construction (item 74), an underground storage facility (item 92), and 14 storage buildings (items 69, 70, 73, 80–85, 90, 93, 95, 98, and 107).

15. (S/D) Two buildings were razed during this period, reducing the plant floorspace by 460 square meters. These were a storage building which was subsequently replaced by a firehouse (item 63) and a support building (item 4).

[redacted]

16. (S/D) Six buildings/structures remained under construction on [redacted] These were a new section (item 21b) to the crating building (item 21), a new engine test section (item 51g), and a new support section (item 51f) of the engine test building (item 51), an administration/engineering building (item 74), a cooling tower (item 104), and a building of unidentified function (item 72). The completion of these buildings/structures will add at least 24,369 square meters of floorspace, bringing the total to at least 319,762 square meters.

17. (S/D) During this period, the security wall in the southwest corner of the plant was moved approximately 25 meters to the south to accommodate vehicular traffic around the south end of the new extension to the assembly building. This activity resulted in the acquisition of an additional 0.3 hectare of land area, bringing the plant total to the current 71.7 hectares.

18. (S/D) The following table illustrates the functional distribution of the 61,576 square meters of floorspace which have been constructed at Plant 16 since [redacted]

Function	Floorspace	Percent
Administration/engineering	20,177	32.8
Fabrication/assembly	27,004	43.9
Production support	2,053	3.3
General support/storage	12,342	20.0
	61,576	100.0

Related Facilities

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19. (TSR) Two facilities, situated adjacent to Plant 16, may be functionally related to the plant. The first area is a missile components test facility associated with the P. F. Zubets MPB.[4] This facility (Figures 2 and 3) is immediately outside the southern security wall of Plant 16 and is separately wall secured. While the association of this facility with the Zubets MPB is well documented, anything other than its physical collocation with Plant 16 is difficult to prove. Thus this facility is not included as part of Plant 16 in this report. A second possibly related facility, currently under construction, is immediately east of the missile components test facility. The new facility (Figure 2) currently contains a completed shop building and at least four buildings in various stages of construction. While it is possible that this area may eventually be associated with Plant 16, it is more likely that it will be associated with Kazan Airframe Plant Gorbunov 22 to the northwest.

Production Activity

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Aircraft Engines

20. (S/D) By [redacted] the date of the report being updated, Plant 16 was believed to be producing only the RD-3M turbojet engine used in the TU-16 (BADGER), M-4 (BISON), and TU-104 (CAMEL).[1] Continued sightings of RD-3M

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[redacted]

[redacted]

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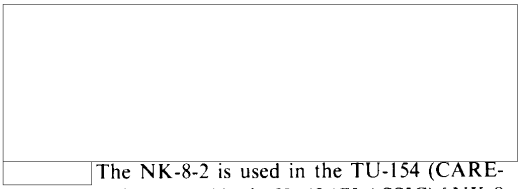
shipping containers at the plant (Figure 4) indicates that replacement engines for these aircraft are still being produced.

Photographic analysis of RD-7M2 production is inconclusive in that both the RD-7M2 and RD-3M use the same type of shipping container. However, sightings of BLINDER afterburner shipping containers (Figure 4) suggest that both RD-7M2 and BLINDER afterburners are produced at Plant 16 since engines and afterburners for a given aircraft are usually produced at the same plant.



The NK-8-2 is used in the TU-154 (CARELESS) and the NK-8-4 in the IL-62 (CLASSIC).[5] NK-8 series engine shipping containers have been seen regularly at Plant 16 (Figure 4) since 1969.

Missile Production and the Zubets MPB

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However, continued observation of missile-associated objects and the location of a known P. F. Zubets-associated facility adjacent to the plant (Figure 3) strongly suggest at least a missile component production role at Plant 16. Continued sightings of a missile component railcar (Figure 5) at Plant 16 since 1966[4] and of various missile component shipping containers and canisters[4] in the missile-associated transshipment area of the plant offer evidence of a missile association.

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[6] Photographic analysis, however, has not provided identification of a Zubets-related building within the plant. While design bureaus are usually separately secured when located within production facilities, no unusual security has been observed at Plant 16.

24. (S/D) Further information on P. F. Zubets MPB and the observation of missile component shipping containers at Plant 16 can be found in a previous NPIC basic report.[6] The report discusses activity at ten facilities believed to be associated with the Zubets MPB.

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REFERENCES

IMAGERY

(S/D) All imagery acquired between was used in the preparation of this report.

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MAPS OR CHARTS

DMA. USATC, Series 200, Sheet 0165-1, 5th ed, 1 Jun 76, scale 1:200,000 (SECRET)

DOCUMENTS

1. NPIC. RCA-09/0031/69, *Kazan Aircraft Engine Plant 16,* Mar 69 (TOP SECRET
2. NPIC. BCA-09/0043/70, *Kazan Aircraft Engine Plant 16,* Apr 70 (TOP SECRET
3. NPIC. BCA-09/0016/74, *Kazan Aircraft Engine Plant 16,* Jan 74 (TOP SECRE
4. NPIC. RCA-09/0027/76, *Activity at Facilities Associated With the P. F. Zubets Design Bureau,* Jun 76 (TOP SECRET
5. DIA. DST-18505-009-78, *Air Breathing Provision Technology Warsaw Pact Countries (U),* 7 Mar 79 (SECRET
6. NPIC. RCA-09/0002/79, *Developments at Soviet Solid Propellant Research and Development Facilities (TSR),* Feb 79 (TOP SECRET

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*Extracted information is classified TOP SECRET R.

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REQUIREMENT

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Project 200033DJ

(S) Comments and queries regarding this report are welcome. They may be directed to Warsaw Pact Forces Division, Imagery Exploitation Group, NPIC,

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